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ABSTRACT

The Teacher Load Index, a simplified method of comparing the teaching load of individuals in the California junior and community colleges, is presented in this report. First, the load measurement problem is addressed, revealing the inadequacies of the Credit Unit and the Weekly Student Contact Hour systems for measuring teacher load. Then, a series of basic assumptions concerning junior colleges and their staffs are outlined as a basis for developing a new index. Elements of teaching load (i.e, class instruction, institutional instructional assistance, institutional responsibility load, and professional improvement load) are then described, followed by a formula for measuring the teaching load. Next, advantages of the index and the index computational procedure are presented, including specific examples of computation. Tables outline course, class size, and preparation factors to be considered when applying the index. Next, special applications of the index are presented for unlimited class size, part-time teachers, simultaneous classes, sub classes, differential lecture-labs, and integrated lecture-labs. Finally, the utilization of the index is reviewed, explaining how the index can be applied to equalize loads or to adjust remuneration for individual teachers, or within departments and institutions. Relevant background data are also included. (JMC)

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JUNIOR COLLEGE

TEACHER LOAD INDEX

A

METHOD FOR MEASURING

TEACHING LOAD

FORM H

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IN APPRECIATION:

Reliable research is founded upon the knowledge and thoughtfulness of the individuals supplying the information. The contributing projects through the years and this final project were made possible through the cooperation of hundreds of junior college personnel. We extend our sincere appreciate to all of those who have cooperated in giving their time, knowledge, and interest to the project.

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George S. Starrett

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TEACHER LOAD INDEX

The problem of comparing teacher loads has been posed by a growing number of junior college teachers across the country. As a result of acceleration pressures and anxieties growing out of their assignments, teachers continue to seek a simplified method of comparing the teacher load of individuals within the same and in differing institutions. An index comparing the actual load carried by a teacher, incorporating all of the factors contributing to that load, has been sought for purposes of equalizing assignments among members of a junior college staff and for adjusting remuneration.

The teacher load systems most commonly used in the California junior colleges are the *STUDENT CREDIT UNIT* and *WEEKLY STUDENT CONTACT HOURS* systems. Because of teacher dissatisfaction with these two systems in recent years, a number of hybrid systems have come into existence. They are commonly referred to as *TEACHER HOUR SYSTEMS*.

The *STUDENT CREDIT UNIT* method is simply the summation of the number of student credit hours of each course or section which the faculty member teaches. It is usually based on the consideration that 15 lecture hours constitute a full load.

The *WEEKLY STUDENT CONTACT HOURS* method is simply the product of the number of students times the number of hours the faculty member is meeting the students each week. In general, it is assumed that the normal load is considered to be five classes meeting three hours each week, with the classes averaging 30 students. Traditionally the average load is 450 *WEEKLY STUDENT*

CONTACT HOURS, (5 x 3 x 30).

There are several different *TEACHER HOUR* formulas at the present time. However, none is widespread enough to be discussed. Generally, the formulas are attempts to respond to particular problems at particular colleges.

The growing dissatisfaction with the *CREDIT UNIT* and *WEEKLY STUDENT CONTACT HOUR* systems is becoming more acute. It is obvious to the discerning individual that the disadvantages of both systems outweigh the advantages, hence the increased concern with attempting to find a reasonable solution to the problem of junior college teaching load measurement. It is not surprising that neither method "fits" the junior college. Each method was designed for another segment of our educational system. Both systems have built-in discrimination against part of the junior college faculty. The *CREDIT UNIT* system was devised for the traditional liberal arts lecture courses and method. The *WEEKLY STUDENT CONTACT HOUR* system was developed as a financial measurement. Both systems are too restrictive and are based upon a single measurement, totally disregarding other very essential load factors. Neither system was ever totally applicable to the junior college as an institution. The continued use of either system or of both systems is outrageous to even the most unsophisticated. These systems do not and cannot solve even the most basic problems of equating teaching load. The problems of overloads and underloads and additional pay for additional duties will continue to plague the faculties until a more appropriate method of measuring load is adopted. With the acceptance of a satisfactory new means, the poor morale of the teaching personnel can be improved. Significant progress must be made to produce some method or measurement which reflects actualities so that you can equate junior college teaching load.

CREDIT UNITS

There is not an apparent easy accommodation of the *CREDIT UNIT* system to alleviate its inherent weaknesses. The primary assumption that each student credit hour is equal in consumption of the teacher's time is *a priori* ridiculous. Only within the context of lecture hours, when each credit hour

is equal to each contact hour, does the assumption remain valid. With the deviation between credit hour and contact hours, the equality disappears and the assumption proves to be unacceptable. Because the *CREDIT UNIT* system is founded upon the lecture-hour base, the system is unable to accommodate the curriculum of a comprehensive junior college. The curriculum, excluding the traditional transfer curriculum, becomes a target of discriminatory action.

The assumption that there is an equality of preparation and post-presentation for every student credit hour is false. Every junior college faculty member recognizes the difference in the amount of time required for different methods of teaching, even within the same subject discipline. It is obvious that the amount of post-presentation time consumed is unrelated to the credit hours granted the students. Post-presentation time is a function of the number of students and the teaching method utilized.

The *CREDIT UNIT* system is totally dependent upon a single measurement. Teachers will all agree that a single measure is unacceptable. Certainly consideration of class size, methods of teaching, and institutional assignments and responsibilities are of major importance. The reliance on a single measurement is further complicated by the fact that the 15-unit load is based on the traditional load of five three-unit courses. However, the arbitrary three-unit measurement has long been abandoned. Course credit units of 1/2, 1, 2, 4, and 5 exist. Mathematically it is obvious that loading problems under this system will be evident. Those faculty members teaching courses of unit values other than of 5 and 3 will not generally have 15-unit loads.

Actual practice indicates that the *STUDENT CREDIT UNIT* system has already been abandoned in total segments and departments of the junior college as unacceptable.

Weekly Student Contact Hours

The *WEEKLY STUDENT CONTACT HOUR* system has the weakness of dependency on a single measurement. It assumes the total reliance upon financial justification, rather than consideration of the factors relating to the teacher's

load. The system discriminates against classroom teachers and the curriculum. For example, personnel teaching advanced sequence courses, remedial classes, laboratories and technical or vocation courses are penalized because these classes are inherently small. Any system which discriminates against educational worth in order to accommodate a partial financial measurement is not worthy of continuance.

The fundamental assumption underlying the *WEEKLY STUDENT CONTACT HOUR* system is unacceptable. The measurement results from the product of two variables, the number of students and the number of hours per week that they are receiving instruction. By this system the load of a person teaching 100 students for three hours per week is "equal" to the load of a person teaching 10 students for thirty hours per week. Hence, the system does not take into account the amount of time spent by the instructor. One utilizes three hours while the other must use thirty hours. Assuming the same preparation time and post-presentation time, the comparison is obviously unfair to both instructors. If the times are unequal the comparison is more discriminatory than the prior illustration.

Since a system based upon such discriminatory practices is detrimental both to the educational program and to the morale of the faculty, it should be abolished.

The need for an index of comparability for teacher load that accommodates the special situations and conditions found in junior colleges is unfilled by the aforementioned systems. Such an index which provides comparability has been developed by the author and will be detailed in this paper.

ASSUMPTIONS

Certain basic assumptions concerning junior colleges and their staffs are necessary as a basis for developing a teacher load index. The assumptions used in developing this teacher load index are listed (not necessarily in order of importance) below:

1. Equality of teaching load is desirable.
2. Equal teaching loads are an element in staff morale.
3. All teaching personnel of a junior college should, within limits, share the same teaching load.
4. Time must be allotted not only to the various teaching processes but also to other educational activities involved in the teacher's total assignment as well.
5. Factors relating to teaching load can be quantified in terms of time required to accomplish the task.
6. Individual differences exist between junior college teachers having comparable qualifications and assignments.
7. Present lecture hour and/or contact hour means of measuring teacher load are inadequate.
8. Teaching is the primary purpose of the junior college, and therefore must serve as the basis for equating the load.
9. A measurement of teaching load is a necessary condition for staffing the institution.
10. A variety of means and methods of teaching subject matter and students exists.
11. Teaching load must bear a relationship to the financial aspects of the institution, and the number of students is but one criterion.
12. Persons teaching in the junior colleges are fully prepared educationally, they exceed the minimum educational background requirements, and the vast majority are experienced in college teaching.

Elements Of Teacher Load

The development of a rational, reasonable and responsible teaching load formula necessarily has as a foundation the consideration of many different factors. These factors tend to be clustered into broad areas.

Class Instruction

One broad area is the *INSTRUCTION* area. The factors within this area are generally subdivided into preparation, presentation and post-presentation categories.(1)*

There are a series of factors which contribute to the *PRE-PRESENTATION (preparation)* load. These are connected with activities which precede the actual teaching process and occur prior to the time that the teacher is in direct contact with the students. These factors are a function of the number of different courses taught, the number of times the class meets per week, and the nature of the subject matter and method utilized in teaching the class. Some examples of activities are preparing, improving, and adapting lecture and discussion content, technique, and materials; planning and revising assignments and tests; setting up laboratory demonstrations; and possibly even maintaining and repairing equipment.

The *PRESENTATION* load factors are demonstrable, while the teacher is in direct contact with the class of students and is actively engaged in the process of teaching. These factors are a function of the subject matter or discipline taught and the particular method of teaching. Some examples would be lecturing, discussing, teaching skills, directing, and assisting individuals.

The *POST-PRESENTATION* load is described by factors which must be accomplished after the teacher has been directly engaged in the active process of teaching students. These are a function of the subject matter taught, the method of teaching, the number of students and the number of different courses or classes. Some examples of the activities are reading and correcting and grading of tests and written assignments, computation of grades, keeping assignment records, tutoring individual students, conferring with failing students, counseling in a remedial instructional form, and advising students and assigned advisees.

*Numbers in parenthesis refer to explanatory section in the Background Data Section.

Institution Instructional Assistance

Every junior college provides a series of services to assist the teacher in the accomplishment of the teaching process; these services comprise a second broad area.(2) Services within the *INSTITUTION INSTRUCTIONAL ASSISTANCE* area generally are improvised to provide relief to the teacher through making skilled personnel available for the accomplishment of various tasks. The activities of the supplementary personnel supplant activities which the instructor would normally find necessary in order to accomplish the required instructional program. The availability of the *ASSISTANCE* load is a function of the institutional budget and the philosophy of the governing board of the college. Some examples of the activities are clerical assistance, duplicating, student help, secretarial assistance, lab assistance, readers, etc. As the assistance increases the load decreases.

Institutional Responsibility Load

A third broad area of factors is concerned with the *INSTITUTIONAL RESPONSIBILITY* load.(3) These activities are generally indirectly related to the actual instructional process of the teaching instructor. These services are those performed by all teachers and are necessary for the proper function and maintenance of the institution and of its students. Generally, these time consuming activities are connected with the co-curricular program and the necessary maintenance meetings of the institution. These factors are a function primarily of administrative or policy adopting base. Examples of activities of these factors would be sponsoring of campus organizations and clubs, assisting with various campus activities and social events, representing the college at community activities, participating on faculty committees such as curriculum committees and coordinating committees, attending department and divisional meetings, providing clerical attendance records, etc.

Professional Improvement Load

A fourth general area of factors deals with the teacher's *PROFESSIONAL IMPROVEMENT* activities. This cluster of activities is concerned with the

individual teacher's attempt to improve his professional competence through increased knowledge, training and the availability of new techniques and methodology. This factor is a function of available time. Some examples of activities are reading and studying professional research, literature in the general teaching field, and professional literature of a major discipline area; attending conferences and conventions, informal and formal meetings of professional colleagues of the same discipline; and serving as an officer of a professional association.

Principle Elements Of Load

During the past several years numerous individuals and committees of junior college personnel of the California Teachers Association have met, discussed, researched, and carried out many studies in the field of measuring teaching load. Their experience would indicate that a satisfactory measurement of load must include many different elements.(4) The principle elements in determining load are generally:

1. the type of teaching method utilized in each course
2. the number of students enrolled in each class
3. the number of teacher hours spent presenting material to classes
4. the amount of preparation time necessary for each class presentation
5. the amount of post-presentation time required for each class presentation
6. the number of different preparations
7. the number of different courses or classes taught
8. the amount of time devoted to institutional responsibilities and assignments
9. the amount of institutional assistance provided to the teacher
10. the amount of time devoted to professional self-improvement

Any accurate and reasonable means of measuring the teaching load should take

into consideration several of these elements at least, if not all of them. A formula using all of these elements has been developed and is presented in the next section.

A Formula For Measuring The Teaching Load

Past attempts to measure teachers' loads have used units, credits, student contact hours, etc. None of these measurements is truly descriptive of what a teacher does because they all neglect some vital factors in the teacher's activities. Therefore, we have abandoned previously used terms and now use the *TEACHER LOAD INDEX*, a number computed from a formula which accounts for the measurable factors of the teacher's professional activity.

The *INDEX* is a quantitative and comparative number possessing magnitude and variation. It results from measurable components which are functions of the teaching process and improvement activities indirectly involved with instruction that expresses the teaching load of an individual teacher. The ten previously identified elements of teacher load have been organized into ten factors for use in the formula. Weights or values have been derived for each individual factor or cluster of factors. The following formula of *TEACHING LOAD INDEX* takes into consideration all but one of the elements in measuring teacher load.

$$INDEX = [(P \cdot CF \cdot HT \cdot SF \cdot SA)_1 + \cdots + (P \cdot CF \cdot HT \cdot SF \cdot SA)_n] - CC \cdot HAW + CC \cdot HRW$$

I = Index number which describes the load value for the individual teacher.

P = Preparation factors.

CF = Course factor which provides for giving weights to types of teaching methodology.

HT = Hours of teaching factor.

SF = Class size factor which is the ideal class size and provides for nine different categories.

SA = Actual student enrollment factor and is identical to the number of students enrolled in each class or section.

n = Number of different classes or sections factor.

HAW = Hours averaged per week receiving institutional assistance in various forms.

CC = Conversion constant. (0.86) used in conversion of hours to a numerical value.

HRW = Hours averaged per week completing the institutional responsibility factor.

The formula above uses nine of the ten essential elements in developing an index of teacher load. The tenth element, professional improvement activities, may be added to give a supplemented index. This element is used when the institution requires continuing professional improvement as a condition of employment. The supplemented index has incorporated all ten of the identified essential elements of teacher load into its component factors.

$$\textit{SUPPLEMENTED INDEX} = [(P \cdot CF \cdot HT \cdot SF \cdot SA)_1 + \cdots + (P \cdot CF \cdot HT \cdot SF \cdot SA)_n] - CC \cdot HAW + CC \cdot HRW + CC \cdot HPW$$

HPW = Hours averaged per week spent on individual professional improvement activities.

The *PREPARATION* factor (P) has a numerical value for the initial preparation for each course and different values for each duplicate preparation.(5)

The *COURSE* factor (CF) has six different numerical values.(1) Each course in the curriculum is assigned one of the six values dependent upon specific criteria. The criteria involve:

1. The percentage of student credit granted for each class hour of instruction.
2. The percentage of instructional time devoted to group or individual instruction.
3. The percentage of instructor time spent in and out of the classroom.
4. Whether the course content is fundamentally transmission of knowledge, development of attitudes, development of skills, group performance, or synthesizing knowledge into a concurrent course.

The course factor includes both the preparation and post-presentation aspects of each course.

The *HOURS TEACHING* per week factor (HT) has a numerical value identical to the number of hours per week the instructor is directly engaged in the teaching process.

The *CLASS SIZE* factor (SF) has nine different numerical values.(6) Nine distinct categories have been established. Each category has a numerical value related to the minimum and maximum class size, as well as the breaking point. The breaking point is the size which, when exceeded, will automatically cause a new section of that course to be established.

The number of *STUDENTS ACTUALLY ENROLLED* factor (SA) has a numerical value identical to the number of students enrolled in each section or class.

The *NUMBER OF DIFFERENT CLASSES OR SECTIONS* factor (n) corresponds to the number of different classes or sections taught. For courses designated in the catalogue as combined classes, that is lecture-lab courses, each portion of the course (lecture or lab) is considered as a discrete class for computational purposes. Also, in those circumstances when two different courses are taught in the identical time segment, one of the courses has its course factor diminished by unity. Therefore, except in these two special cases, the "n" factor corresponds to the class schedule. Sample problems using these two special cases are shown in the section on Special Application Computation.

The *HOURS AVERAGED PER WEEK* factors, (HAW), (HRW), and (HPW), have a numerical value identical to the average hours per week involved in the various categories represented that are not directly utilized in the classroom instructional process.(7) (HAW) represents the average number of hours per week of instructional assistance received from the institution. (HRW) represents the average number of hours per week used by the teacher in completing his institutional responsibilities beyond his class assignments. (HPW) represents the average number of hours per week the individual teacher uses in professional improvement. Specific examples of activities in these three categories are liste

in Table IV.

The *CONVERSION CONSTANT* factor (CC) has a numerical value that is utilized in the formula to convert hours per week to a functional numerical equivalent.(7) The value (0.86) for this factor in the formula is always used. The Conversion Constant itself is not one of the elements in determining load, but it modifies various essentials.

Advantages Of The Index

The *INDEX* has the advantage of being a measurement which is the outgrowth of the concerns of junior college teachers and the institutions they serve. It overcomes the restriction of attempting to adjust a load measurement designed for another institution and then applied to the junior college, a uniquely different institution. The direct applicability of a Liberal Arts College or a Secondary School measurement is avoided. The complexities of the junior college curriculum are recognized and provided for in the establishment of the *INDEX*. It provides for and assures the individual teacher of a consideration of the most important essentials connected with the responsibilities of a teaching load.

The *INDEX* is applicable to the total range of individual teachers, departments, divisions and colleges. The co-curricular activities accounted for in the Assignment portion of the *INSTITUTIONAL RESPONSIBILITY LOAD* helps to establish a range and limit upon the assignment of activities which are unaccounted for in the *INSTRUCTIONAL LOAD*. Obviously, the other two methods are blatantly ignorant of this facet of the educational life of a junior college teacher. Furthermore, the *INDEX* provides a means of assessing the total time commitment necessary to assure a reasonable measurement of teaching load. It avoids a piecemeal or partial method of measuring the total load of the individual teacher. The *INDEX* can also provide a reasonable and practical method for distributing assistance to teachers in order to decrease an excess load.

The *INDEX* recognizes the major factors which consume the teacher's time spent in accomplishing the required educational responsibilities. The *INDEX* places

emphasis on the teacher rather than on financial considerations which are of convenience to the institution or the governing board. The *INDEX* recognizes time as a major requisite factor in measuring teacher load. A strength of the *INDEX* is the accountability of activities outside the direct teaching function. It avoids the restriction of the single measurement of time (contact hours) as the prime and/or only measurement.

The reasonableness of a multi-factor system is obvious. The *INDEX*, by providing for more than a single measurement, is flexible rather than rigid. Adjustments within the *INSTRUCTIONAL LOAD* can be of a minor as well as a major nature. Reasonable adjustment can be accomplished by increasing or decreasing the number of preparations, courses, or students within any given situation. It provides, within the *INDEX*, a set of criteria for the maintenance of classes that are neither too small, for economical reasons, nor too large, for educational reasons. By coupling the *INSTITUTIONAL LOAD* with the *INSTRUCTIONAL LOAD* of the individual teacher, the administration can compensate for some necessary administration and supplementary decisions needed at any particular time. If reasonable and practical solutions cannot be achieved, the *INDEX* provides a non-discriminatory method and criteria for monetary compensation for an excessive teacher load.

Computational Procedure For Teacher Load Index

The *TEACHER LOAD INDEX* is computed by substituting methematical values for the factor symbols in the formula and then working the indicated arithmetical processes. The mathematical values for substituting into the formula are determined by using the Tables of Equivalents provided with the formula. Basic information needed prior to the computation of the *INDEX* includes:

1. The teacher's class schedule, showing class title, units, and class hours taught.
2. The number of students enrolled in each class.
3. A description of each class, giving basis for credit, type of instructional activities, and course content.

4. Table IV, A, B, and C, completed by the teacher, showing the average number of hours, to the nearest half hour, of activity per week.
5. If the teacher receives additional monetary compensation above his base pay for activities and/or classes, do not include these activities and/or classes in the computations. See Page 17, Teacher B for example.

STEP 1. Construct a matrix for the teacher's class schedule and factors.

ie:

COURSE		FACTORS	P	CF	HT	SF	SA
Class 1	Title						
Class 2	"						
Class 3	"						
Class 4	"						
Class 5	"						

a. Using Table III, determine the P factors for each class and enter the numerical equivalent on the appropriate line of the matrix under the heading "P."
b. Using Table I, and the course descriptions, determine the CF factor for each class and enter the numerical equivalent on the appropriate line of the matrix under the heading "CF."
c. Using the teacher's class schedule, determine the number of hours of teacher participation in each class and enter that number on the appropriate line of the matrix under the heading "HT."
d. Using Table II, select the appropriate Class Size Factor, and enter the numerical equivalent for each class on the appropriate line of the matrix under the heading "SF."
e. Using the class enrollment lists, enter the actual number of students enrolled on the appropriate line of the matrix for each class under the heading "SA."

STEP 2. Have the teacher compute the average hours per week received of *INSTITUTIONAL INSTRUCTIONAL ASSISTANCE* (HAW), the *INSTITUTIONAL RESPONSIBILITY* factor (HRW), and the *INDIVIDUAL IMPROVEMENT* factor (HWP). These factors are computed by the use of Tables IV-A, IV-B, and IV-C. The teacher enters the total amount of time used or received, to the nearest half hour, each week for three weeks, and then averages the time per week to the nearest half hour. The listed activities in Table IV-A, B, and C, are suggestive of the types of assistance or service that would be considered in each of these factors. The final numerical expression for each of these factors is a number that represents the average hours per week, to the nearest half hour, involved in that factor.

STEP 3. Substitute the appropriate numerical values from the matrix and Table IV computation in the formula for P, CF, HT, SF, SA, CC, HRW, and HAW. The value of the Conversion Constant (CC) is 0.86.

STEP 4. Make the arithmetical computations indicated in the formula. The final figure, after all arithmetical processes are completed, will be the teacher load index.

Computing The Supplemented Teacher Load Index

STEP 1. Complete the first three steps detailed in the previously described computational procedure. Add the (CC · HPW) to the *INDEX* formula, making the necessary numerical value substitution for the factor HPW, from Table IV-C.

STEP 2. Complete the indicated arithmetical computations, the resulting number being the Supplemented Index (SI).

Special application computations will be found immediately following the four examples that have been worked using the step by step procedure detailed above.

Examples Of Computation Of Teaching Load Index

TEACHER "A"

* * * TEACHERS CLASS SCHEDULE * * *

	CLASS		UNITS	HOURS	STUDENTS
Class 1.	Geography 2	(Cultural Geography)	3	3	32
Class 2.	Geography 5A	(Economic Geography)	3	3	28
Class 3.	Geography 5B	(Economic Geography)	3	3	34
Class 4.	Geography 2	(Cultural Geography)	3	3	32
Class 5.	Geography 5B	(Economic Geography)	3	3	30

* * * DETERMINING FACTORS * * *

	COURSE	FACTORS				
		P	CF	HT	SF	SA
Class 1.	Geography 2	P1	CF1	3	S2	32
Class 2.	Geography 5A	P1	CF1	3	S2	28
Class 3.	Geography 5B	P1	CF1	3	S2	34
Class 4.	Geography 2	P2	CF1	3	S2	32
Class 5.	Geography 5B	P2	CF1	3	S2	30

* * * CLASS INSTRUCTIONAL LOAD * * *

$$INDEX = [(P \cdot CF \cdot HT \cdot SF \cdot SA)_1 + \ldots + (P \cdot CF \cdot HT \cdot SF \cdot SA)_n] - CC \cdot HAW + CC \cdot HRW$$

Class 1.	$P \cdot (CF \cdot HT) \cdot (SF \cdot SA)_1$	= 1.0(2.66 x 3)	(.0333 x 32) = 8.50
Class 2.	" "	= 1.0(2.66 x 3)	(.0333 x 28) = 7.44
Class 3.	" "	= 1.0(2.66 x 3)	(.0333 x 34) = 9.03
Class 4.	" "	= 0.8(2.66 x 3)	(.0333 x 32) = 6.80
Class 5.	$P \cdot (CF \cdot HT) \cdot (SF \cdot SA)_5$	= 0.8(2.66 x 3)	(.0333 x 30) = 6.38
Sum of	" "	= "	" = 38.15

* * * INSTITUTIONAL INSTRUCTIONAL ASSISTANCE * * *

Teacher A received 2-1/2 hours of assistance for each of three consecutive weeks.
Using the formula (CC · HAN) = (.86 x 5.75) = 4.95

* * * FINAL SUBSTITUTIONS * * *

Index =	Sum of Class Loads	-	Institutional Instructional Assistance	+	Institutional Responsibility Load

Index = 38.15 - 2.15 + 4.95

Index = 40.95

TEACHER "B"

* * * TEACHERS CLASS SCHEDULE * * *

	CLASS		UNITS	HOURS	STUDENTS
Class 1.	Bus. 5	(Sec. Typing)	2	3	23
Class 2.	Bus. 12	(Adv. Steno.)	4	7	21
Class 3.	Bus. 34	(Bus. Corr.)	2	2	30
Class 4.	Bus. 34	(Bus. Corr.)	2	2	32
Class 5.	Bus. 73	(Bus. Eng.)	3	3	19
*Class 6.	Bus. 34	(Bus. Corr.)	3	3	28

*(Receive additional compensation for Class 6 - See P. 14)

* * * DETERMINING FACTORS * * *

	COURSE	FACTORS				
		P	CF	HT	SF	SA
Class 1.	Bus. 5	P1	CF2	3	S4	23
Class 2.	Bus. 12	P1	CF2	7	S4	21
Class 3.	Bus. 34	P1	CF1	2	S2	30
Class 4.	Bus. 34	P2	CF1	2	S2	32
Class 5.	Bus. 73	P1	CF1	3	S5	19

* * * CLASS INSTRUCTIONAL LOAD * * *

Index = $[(P \cdot CF \cdot HT \cdot SF \cdot SA)_1 + \cdots + (CF \cdot HT \cdot SF \cdot SA)_n] - CC \cdot HAW + CC \cdot HRW$

Class 1.	P · (CF · HT) · (SF · SA) = 1.0(2.22 x 3)	(.0444 x 23)	= 6.80
Class 2.	" = 1.0(2.22 x 7)	(.0444 x 21)	= 14.49
Class 3.	" = 1.0(2.66 x 2)	(.0333 x 30)	= 5.31
Class 4.	" = .8(2.66 x 2)	(.0333 x 32)	= 4.53
Class 5.	" = 1.0(2.66 x 3)	(.0540 x 19)	= 8.19
Sum of	" = "		= 39.32

* * * INSTITUTIONAL INSTRUCTIONAL ASSISTANCE * * *

Teacher "B" received no assistance, for each of three consecutive weeks. Using the formula (CC · HAW), we compute .86 x 0 = 0.

* * * INSTITUTIONAL RESPONSIBILITY LOAD * * *

Teacher "B" used 22-1/2 hours on Institutional Responsibility activities during the three consecutive week period, for a weekly average of 7.50 hours. Formula computation gives (CC · HRW) = .86 x 7.50 = 6.45.

* * * FINAL SUBSTITUTIONS * * *

Index = Sum of Class Loads − Institutional Instructional Assistance + Institutional Responsibility Load

Index = 39.32 - 0 + 6.45

Index = 45.77

TEACHER "C"

* * * TEACHERS CLASS SCHEDULE * * *

	CLASS			UNITS	HOURS	STUDENTS
Class 1.	Agr. 50	(Farm Tractors)	(Lecture & Lab)	2	4	20
Class 2.	Agr. 51	(Farm Power)	(Lecture)	1	1	24
Class 3.	Agr. 51	(Farm Power)	(Lab)	2	6	24
Class 4.	Agr. 50	(Farm Tractors)	(Lecture & Lab)	2	4	16
Class 5.	Agr. 54	(Farm Surveying)	(Lecture & Lab)	2	5	15

* * * DETERMINING FACTORS * * *

COURSE	FACTORS				
	P	CF	HT	SF	SA
Class 1. Agr. 50	P1	CF2	4	S6	20
Class 2. Agr. 51	P1	CF1	1	S6	24
Class 3. Agr. 51	P1	CF3	6	S6	24
Class 4. Agr. 50	P2	CF2	4	S6	16
Class 5. Agr. 54	P1	CF4	5	S6	15

* * * CLASS INSTRUCTIONAL LOAD * * *

Index = $[(P \cdot CF \cdot HT \cdot SF \cdot SA)_1 + \cdots + (P \cdot CF \cdot HT \cdot SF \cdot SA)_n] - CC \cdot HAW + CC \cdot HRW$

Class 1. $P \cdot (CF \cdot HT) \cdot (SF \cdot SA)_1$ = 1.0(2.22 x 4) (.0555 x 20) = 9.86

Class 2. = 1.0(2.66 x 1) (.0555 x 24) = 3.54

Class 3. = 1.0(2.00 x 6) (.0555 x 24) = 15.98

Class 4. = .8(2.22 x 4) (.0555 x 16) = 6.31

Class 5. $P \cdot (CF \cdot HT) \cdot (SF \cdot SA)_5$ = 1.0(1.60 x 5) (.0555 x 15) = 6.66

Sum of = " " = 42.35

* * * INSTITUTIONAL INSTRUCTIONAL ASSISTANCE * * *

Teacher "C" received 7 1/4 hours of assistance for each of three consecutive weeks. Using formula (CC · HAW), we compute .86 x 8.25 = 7.10.

* * * INSTITUTIONAL RESPONSIBILITY LOAD * * *

Teacher "C" used 9.75 hours on Institutional Responsibility activities during the three consecutive week period, for a weekly average of 3.25 hours. Formula computation gives (CC · HRW) = .86 x 3.25 = 2.80.

* * FINAL SUBSTITUTIONS * * *

Index = Sum of Class Loads − Institutional Instructional Assistance + Institutional Responsibility Load

Index = 42.35 - 7.10 + 2.80

Index = 39.05

TEACHER "D"

* * * TEACHERS CLASS SCHEDULE * * *

	CLASS			UNITS	HOURS	STUDENTS
1.	Chemistry 1A	(Principles)	Lecture	3	3	24
2.	Chemistry 1A	(Principles)	Lab	2	6	20
3.	Chemistry 1A	(Principles)	Lecture	3	3	20
4.	Chemistry 1A	(Principles)	Lab	2	6	24
5.	Chemistry 1B	(General)	Lecture	3	3	24
6.	Chemistry 1B	(General)	Lab	2	6	24

* * * DETERMINING FACTORS * * *

COURSE	FACTORS				
	P	CF	HT	SF	SA
Class 1. Chemistry 1A	P1	CF1	3	S2	24
Class 2. Chemistry 1A	P1	CF3	6	S6	20
Class 3. Chemistry 1A	P2	CF1	3	S2	20
Class 4. Chemistry 1A	P2	CF3	6	S6	24
Class 5. Chemistry 1B	P1	CF1	3	S2	24
Class 6. Chemistry 1B	P1	CF3	6	S6	24

* * * CLASS INSTRUCTIONAL LOAD * * *

Index = $[(P \cdot CF \cdot HT \cdot SF \cdot SA)_1 + \cdots + (CF \cdot HT \cdot SF \cdot SA)_n]-(CC \cdot HAW)+(CC \cdot HRW)$

Class 1. $P \cdot (CF \cdot HT) \cdot (SF \cdot SA) = 1.0(2.66 \times 3)\ (.0333 \times 24) = 6.38$

Class 2. " $= 1.0(2.00 \times 6)\ (.0555 \times 20) = 13.32$

Class 3. " $= .8(2.66 \times 3)\ (.0333 \times 20) = 4.25$

Class 4. " $= .8(2.00 \times 6)\ (.0555 \times 24) = 12.79$

Class 5. " $= 1.0(2.66 \times 3)\ (.0333 \times 24) = 6.38$

Class 6. $P \cdot (CF \cdot HT) \cdot (SF \cdot SA)_6 = 1.0(2.00 \times 6)\ (.0555 \times 24) = 15.98$

Sum of " = " " = 59.10

* * * INSTITUTIONAL INSTRUCTIONAL ASSISTANCE * * *

Teacher "D" received an average of 6-1/2 hours of assistance each of three consecutive weeks. Using the formula (CC · HAW) =.86 x 6.50 = 5.59.

* * * INSTITUTIONAL RESPONSIBILITY LOAD * * *

Teacher "D" used 7.50 hours on Institutional Responsibility activities during the three consecutive week period, for a weekly average of 2.50 hours. Formula computation gives (CC · NRW) = .86 x 2.50 = 1.94.

* * * FINAL SUBSTITUTIONS * * *

$$\textit{Index} = \text{Sum of Class Loads} - \text{Institutional Instructional Assistance} + \text{Institutional Responsibility Load}$$

$$\textit{Index} = 59.10 - 5.59 + 1.94$$

$$\textit{Index} = 55.45$$

TABLE I

COURSE FACTORS

COURSE FACTOR		COURSE DESCRIPTION	NUMERICAL FACTOR
(CF_1)	(a)	Students are granted one unit of college credit for one class hour unit of supervised instruction per week.	2.66
	(b)	At least eighty percent of class instructional time is devoted to group instruction.	
	(c)	Course content fundamentally is transmitting knowledge and developing attitudes.	
	(d)	1 credit hour = 1 contact hour.	
(CF_2)	(a)	Students are granted one unit of college credit for two or less, but more than one class hour units of supervised instruction per week.	2.43
	(b)	A majority of a teacher's instructional time is devoted to individual instruction.	
	(c)	Course content is directed towards development of individual student skills.	
	(d)	1 credit hour = more than 1, but less than or equal to 2, contact hours.	

TABLE I, Continued

COURSE FACTOR		COURSE DESCRIPTION	NUMERICAL FACTOR
(CF_3)	(a)	Students are granted one unit of college credit for less than three, but more than two, class hour units of supervised instruction per week.	2.22
	(b)	Course content is integrated with a concurrent section.	
	(c)	Students generally synthesize the learning material during the class.	
	(d)	Significant portions of the teacher's time are required for out-of-class assignments.	
	(e)	1 credit hour = more than 2, but less than 3, contact hours.	
(CF_4)	(a)	Students are granted one unit of college credit for three class hour units of supervised instruction per week.	2.00
	(b)	Course content is designed to implement knowledge derived from concurrent and complementary sections.	
	(c)	Information obtained by the student is synthesized and integrated into reports during and outside of the class time.	
	(d)	Approximately fifteen percent of the teacher's time is spent in evaluation of students' written assignments.	
	(e)	1 credit hour = 3 contact hours.	
(CF_5)	(a)	Students are granted one unit of college credit for more than three, but four or less, class hour units of supervised instruction per week.	1.80
	(b)	Course content basically is development of individual skills through group participation.	
	(c)	Teacher's instructional time is overwhelmingly accomplished during the class meetings.	
	(d)	1 credit hour = more than 3, but less or equal to 4, contact hours.	

TABLE I, Continued

COURSE FACTOR		COURSE DESCRIPTION	NUMERICAL FACTOR
(CF_6)	(a)	Students are granted one unit of college credit for more than four class hour units of supervised instruction per week.	1.60
	(b)	Skills developed by the students are observable to persons other than the college student body.	
	(c)	Instructional time is applied to develop group performance by individual students.	
	(d)	Instructor is immediately responsible for the public performance of his students.	
	(e)	1 credit hour = more than 4 contact hours.	

TABLE II

CLASS SIZE FACTORS

CLASS SIZE FACTOR		DESCRIPTION		NUMERICAL FACTOR
S_1	-	Unlimited excepted by physical facilities	=	xxxx
S_2	-	Minimum 20; Maximum 40; Breaking Point 50	=	0.0333
S_3	-	Minimum 18; Maximum 35; Breaking Point 40	=	0.0377
S_4	-	Minimum 15; Maximum 30; Breading Point 35	=	0.0444
S_5	-	Minimum 12; Maximum 25; Breaking Point 30	=	0.0540
S_6	-	Minimum 12; Maximum 24; Breaking Point 24	=	0.0555
S_7	-	Minimum 10; Maximum 20; Breaking Point 25	=	0.0666
S_8	-	Minimum 7; Maximum 12; Breaking Point 16	=	0.1000
S_9	-	Minimum 5; Maximum 10; Breaking Point 12	=	0.1250

NOTE: "Breaking Point" indicates additional class sections should be established.

TABLE III

PREPARATION FACTORS

PREPARATION FACTOR		DESCRIPTION		NUMERICAL FACTOR
P_1	-	Initial Preparation	=	1.00
P_2	-	1st Duplicate Preparation	=	0.80
P_3	-	2nd Duplicate Preparation	=	0.80
P_4	-	3rd Duplicate Preparation	=	0.80

TABLE IV A

INSTITUTIONAL INSTRUCTION ASSISTANCE

		WEEK (I)					WEEK (2)					WEEK (3)				
		½	1	1½	2	2½	½	1	1½	2	2½	½	1	1½	2	2½
1.	readers	--	--	-			--	--	-			--	--	-		
2.	lab assistance	--	--	-			--	--	-			--	--	-		
3.	secretarial help	--	--	-			--	--	-			--	--	-		
4.	clerical assistance	--	--	-			--	--	-			--	--	-		
5.	part-time classified	--	--	-			--	--	-			--	--	-		
6.	paid student help	--	--	-			--	--	-			--	--	-		
7.	duplicating	--	--	-			--	--	-			--	--	-		
8.		--	--	-			--	--	-			--	--	-		
9.		--	--	-			--	--	-			--	--	-		
10.		--	--	-			--	--	-			--	--	-		

TABLE IV B

INSTITUTIONAL RESPONSIBILITY

	WEEK (1) ½ 1 1½ 2 2½	WEEK (2) ½ 1 1½ 2 2½	WEEK (3) ½ 1 1½ 2 2½
1. sponsoring campus orgs. (clubs, etc.)	-- -- -	-- -- -	-- -- -
2. assisting various campus activities (social events)	-- -- -	-- -- -	-- -- -
3. assisting with community activities	-- -- -	-- -- -	-- -- -
4. participating on faculty committees	-- -- -	-- -- -	-- -- -
5. participating on curriculum committees	-- -- -	-- -- -	-- -- -
6. participating on coordinating committees	-- -- -	-- -- -	-- -- -
7. department meetings; divisional meetings	-- -- -	-- -- -	-- -- -
8. academic senate officers and committees	-- -- -	-- -- -	-- -- -
9. clerical attendance records and grades	-- -- -	-- -- -	-- -- -
10. conferences	-- -- -	-- -- -	-- -- -
11. counseling students	-- -- -	-- -- -	-- -- -
12.	-- -- -	-- -- -	-- -- -
13.	-- -- -	-- -- -	-- -- -

TABLE IV C

PROFESSIONAL IMPROVEMENT

1. reading; studying professional research	-- -- -	-- -- -	-- -- -
2. reading; studying professional literature (general teaching field)	-- -- -	-- -- -	-- -- -

TABLE IV C, Continued

	WEEK (1) ½ 1 1½ 2 2½	WEEK (2) ½ 1 1½ 2 2½	WEEK (3) ½ 1 1½ 2 2½
3. reading; studying professional literature (major subject field)	– – –	– – –	– – –
4. attending professional conferences and/or conventions	– – –	– – –	– – –
5. meeting formally and informally with professional colleagues	– – –	– – –	– – –
6. serving in a professional association	– – –	– – –	– – –
7. advanced college courses	– – –	– – –	– – –
8.	– – –	– – –	– – –
9.	– – –	– – –	– – –
10.	– – –	– – –	– – –

SPECIAL APPLICATION COMPUTATIONS

UNLIMITED CLASS SIZE

Principle: When the class size is unlimited (S_1) the size factor is deleted and replaced by unity. (Institution Instruction Assistance attributed to course not computed.)

Example: Philosophy 1
3 units 3 hours

P	CF	HT
P_1	CF_1	3

therefore: $1.00(2.66 \times 3)\ (1) = 7.98$

SPECIAL APPLICATION COMPUTATIONS, Continued

PART-TIME TEACHER

Principle: When an individual teacher is classified as a part-time employee, there must be a conversion to a full time equivalent to obtain an appropriate teacher's index. The conversion is accomplished by expressing the part-time ratio as a decimal fraction. The teacher's index divided by the decimal fraction expresses the index equivalency.

Example: A teacher is considered to be assigned to 75% time teaching. The teacher's index is 27.36. Convert 75% to the decimal fraction .75. Then divide .75 into 27.36. The index equivalency is 36.52.

SIMULTANEOUS CLASSES

Principle: When an instructor's class schedule indicates two courses are being taught simultaneously (i.e. Speech 41A (Beginning Stagecraft) M W F 10:00 a.m. and Speech 41B (Advanced Stagecraft) M W F 10:00 a.m.). The course factor of one of the courses is decreased by unity (1).

Example:

Speech 41A (Beginning Stagecraft)
Speech 41B (Advanced Stagecraft)

CF	CF
CF_5	1.33
CF_5	.33

SUB CLASSES

Principle: When a course is taught by inclusion of all students in a single class for a specified time each week, and also meets in sub groups at different specified times, the course is treated as if it were different discrete courses. Different size factors (SF) pertain to the total class and sub classes. The hours teaching factor (HT) will be different from the student's hours of attendance.

SUB CLASSES, Continued

Example: Class Schedule

Psychology 1 — 3 units 3 hours

	M			11
Section 1		W	F	12
Section 2		T	TH	12

	P	CF	HT	SF	SA
Psychology 1 (General)	P_1	CF_1	1	S_2	42
Psychology 1 (General) Sec. 1	P_1	CF_1	2	S_6	23
Psychology 1 (General) Sec. 2	P_2	CF_1	2	S_6	19

DIFFERENTIAL LECTURE-LABS

Principle: When the college catalogue differentiates the hours for a specific course, e.g. Lecture: 3 hours, Laboratory: 6 hours, Credit Units: 5. Separate course factors are utilized for the lecture and laboratory portions of the course. Each hour of lecture is granted one (1) credit unit, the hours of laboratory are granted the remaining unit credits.

Example: Biology 1A (General) 5 units, Lecture 3 hrs., Lab 6 hrs.

	P	CF	HT
Biology 1A (Lecture)	P_1	CF_1	3
Biology 1A (Laboratory)	P_1	CF_3	6

INTEGRATED LECTURE-LAB

Principle: When college catalogue does not differentiate the hours for specific course, e.g. Lecture and Laboratory 6 hours. The course

INTEGRATED LECTURE-LAB, Continued

factor utilized is comprehensive and is not differentiated.

Example: Art 3A (Color and Design) 2 units Lecture and Lab 4 hours

	P	CF	HT
Art 3A (Color and Design)	P_1	CF_2	4

Example: Agriculture 54 (Farm Surveying) 2 units Lecture and Lab 5 hours

	P	CF	HT
Agriculture 54 (Farm Surveying)	P_1	CF_4	5

Utilization of Index

The value of the *Index* is in its applicability for equalizing loads or adjusting remuneration of individual teachers. Load equalization is possible for the individual teacher, for departments, and for institutions. The *Index* provides a means of measurement and comparing or contrasting loads. It is manifest that there must be a desire to adjust loads and/or remuneration for the *Index* to be of value.

INDIVIDUAL TEACHER'S INDEX

When a teacher's *Index* is computed, it becomes possible to make several comparisons. The *Index* provides a number which allows the individual teacher to compare his load

to the reasonable load of a teacher with a comparable teaching schedule. The *index* provides a means of classifying the relative weight of the load. First, the individual's *index* will show the magnitude of deviation of his load from the "average" individual teacher's *index* of 40.34 $\pm$ 4.15. (7) Second, the individual's *index* indicates whether the particular teacher has a below average, average, or above average load when compared to a specified *index* range. Third, the amount of adjustment of the component parts of the *index* to produce an average *index* for the individual teacher is indicated. Fourth, when a teacher's *index* is in excess of the normal limits, the teacher can be monetarily compensated in a direct proportion to his load in the following manner.

1. Calculate the difference between the teacher's *index* and the *index* limit.
2. Divide the difference (#1 above) by the average individual teacher *index*.

The resulting value determines the amount of overload. If adjustments of the component factors in the *index* cannot be made to bring the teacher's *index* within the acceptable range, the amount of overload is multiplied by the individual teacher's contract salary. This will determine the additional amount of money necessary to compensate the teacher properly for overload.

Average Teacher Index = 40.35 $\pm$ 4.15.

OVERLOAD COMPUTATION

Teacher "E"

Teacher's Index		=	52.47
Index Upper Limit / Difference		=	44.50 / 8.07
Difference / Average Index	8.07 / 40.35	=	.20 overload

ADJUSTMENTS

Finding that teacher "E" has an overload factor of 0.20, some form of load

adjustment would be indicated. Major or minor adjustments are possible in the four broad areas of the Load Formula to either raise or lower the individual's *index*. The broad areas of adjustment are:

1. Class load (or Instructional load)
2. Institutional Instructional Assistance
3. Institutional Responsibility
4. Professional Improvement, if the Supplemented Index is being used, See P. 10.

If adjustments are not possible that will bring the individual teacher into the acceptable range, calculation of extra remuneration is the next step.

Teacher "E" has a contract salary of $10,450.

COMPUTATION
(Contract Salary) x (Overload) = Extra Remuneration
$10,450 X .20 = $2,090

Assuming the teacher's assignment, and all other factors remained constant for both semesters, the annual compensation for teacher "E" would be $10,450 + $2,090 = $12,540.

EXAMPLE: Teacher "F" Contract Salary = $11,430
Teacher "F's" Index = 53.51

$$\frac{\text{Index Upper Limit}}{\text{Difference}} = \frac{44.50}{9.01}$$

$$\frac{\text{Difference}}{\text{Average Index}} = \frac{9.01}{40.35} = .22 \text{ overload}$$

(Contract Salary)x(Overload) = Extra Remuneration
($11,430)x(.22) = $2,514.60
Annual Compensation = Contract Salary + Extra Remuneration
$11,430 + $2,514.60 = $13,944.60

DEPARTMENT AND/OR DIVISION INDEX

For administrative and instructional purposes the teachers within colleges are grouped together to form Divisions or Departments. Logically it can be asked, does the *Teacher Load Index* provide a means of determining the load of the department of division? Since a department is composed of individual teachers, a measure of the sums of the indices will provide a comparative means for measurement. It is assumed that although there are individual deviations from the average individual index, the department will be staffed to the average.

A department's *index* will indicate whether the particular department is under or overstaffed and the magnitude of deviation severity in partial or whole teachers.

COMPUTATION

To determine a department's load *index*, obtain the indices of all members of the department and add them together to get a sum of indices. Multiply the average index (40.35) by the number of teachers within the department. Subtract the resulting product from the total of the department's indices. Divide the resulting difference by the average index (40.35) and the resulting quotient is expressed as a positive or negative number comparable to whole or partial teachers equal to over-staffing or under-staffing.

When persons are included within a department but are credited with less than a full time assignment, their indices are added with those of the full time teachers to determine the sum of individual indices. Their "time in the department" is changed to a decimal fraction of a full time teacher and is added to the number of teachers in the department.

DEPARTMENT TEACHING LOAD INDEX

$$\frac{\text{Sum of Individual Indices} - (\text{Average Index} \times \text{Number of Teachers})}{\text{Average Index}} = \text{Department Index}$$

Example: Department A fifteen full time teachers whose individual indices add up to 716.880.

$$\frac{716.880 - (0.35 \times 15)}{40.5} = \frac{716.880 - 605.25}{40.35} = \frac{111.63}{40.35} = +2.77$$

Therefore, 2.77 additonal persons are needed to reduce the total department's Index to the Average ndex.

Example: Department B fourteen full time teachers whose individual indices add up to 524.678.

$$\frac{524.678 - (0.35 \times 14)}{40.5} = \frac{524.678 - 564.90}{40.35} = \frac{-40.222}{40.35} = -.99$$

Therefore, .99 less persons are needed to adjust the total Department Index to the Average Index.

ADJUSTMENTS

In the case of Department A, if 2.77 additional teachers were added to the department, or the load reduced by the equivalent amount, the department would have an average Index equal to the individual average Index. The department index does not show the individual Index deviations, whether or not all department members are above, at, or below the average. To adjust the department Index, (1) additional teachers may be added to the department, (2) the Institutional Instructional Assistance to department members may be increased, (3) the Institutional Responsibility Load for department members may be decreased, or (4) a combination of any of the previous three. To adjust the department load properly the load of the individuals of the department must be adjusted.

COLLEGE INDEX

The instructional program of a college is the primary purpose and the only reason for its existence. The *Teaching Load Index* provides a method of determining whether a college is properly staffed for its student population and instructional program. Administratively, colleges are typically divided into Departments or Divisions, which in turn are compsed of individual teachers. Hence by calculating the sum of the individual teaners an assessment of the total college can be made.

COMPUTATION

To determine the college's *Load Index*, first obtain the individual indices of all of the teaching staff and add them together. Multiply the Average Index (40.35) by the number of teaching staff. Subtract the resulting product from the total of the college's indices. Divide the resulting difference by the Average Index (40.35) and the resulting quotient is expressed as a positive or negative number comparable to whole or partial teachers. When teachers are included on the college's teaching staff who have less than a full time assignment, their indices are added with those of the full time teachers to determine the sum of individual indices. Their part-time assignment is changed to a decimal fraction of a full time teacher and is added to the numbers of teachers in the college.

COLLEGE TEACHING LOAD FORMULA

$$\frac{\text{Sum of Individual Indices} - (\text{Average Index} \times \text{Number of Teachers})}{\text{Average Index}} = \text{College Index}$$

EXAMPLES: College "A" 86.5 full and part time teachers whose combined indices total 3,591.66

$$\frac{(3,591.66) - (40.35 \times 86.5)}{40.35} = \frac{3,591.66 - 3,490.28}{40.35} = \frac{100.28}{40.35} = 2.48$$

College "B" 127.66 full and part-time teachers whose combined indices total 56,285.69

$$\frac{(56,285.69) - (40.35 \times 127.66)}{40.35} = \frac{(56,285.69 - 56,215.08)}{40.35} = \frac{70.61}{40.35} = .75$$

The results of College "A" indicate that the college as a whole is 2.48 teachers short of the desirable staff level. College "B" is .75 of a teacher understaffed. If College "A" would add 2.45 teachers and College "B" would add .75 of a teacher, the Average Index of all teachers in the colleges would be the average individual index.

ADJUSTMENTS

Adjustments of teaching load, as measured by the *Teaching Load Index* at the total campus level, does not inherently guarantee equality of either departmental or individual teacher load. The College Index indicates the degree that the institution as a totality is properly staffed. Although a College Index is average, there can be departments with an overload or an underload, as well as individuals within and between departments who are over or under loaded.

When curriculum, students, and educational programs cannot be adjusted, the college can modify and change department indices by increasing or decreasing the Institutional Instructional Assistance and Institutional Responsibility Load of any or all individual teachers.

RELEVANT BACKGROUND DATA DERIVED FROM PROJECTS

The California Teachers Association is a professional association with the stated purpose of providing an opportunity to speak on behalf of its members. A product of this purpose is recognizable by the periodic policy statements enunciated by the Associations' representative bodies.

The representative bodies of the Association are known as Councils. Each Council is subdivided into committees from which it receives recommendations for policy or position statements. Before a committee makes a recommendation it is usual procedure to seek facts and collect relevant data on the specific topic. The projects in the following paragraphs are examples of data collection which preceded policy development and statement. As a rule, such projects are for use of the committee and are not published.

In the early Spring of 1958 the Junior College Problems Committee was formed. The committee was charged with the responsibility of recommending policies and positions which were of interest to the members of the junior colleges. Teaching load was listed as a "problem" at the initial meeting of the committee and has remained a concern of the committee each successive year.

The committee meets at least five times each academic year. The committee is composed of elected representatives from the junior colleges in the nine Southern California counties. During the past ten years, these colleges have had approximately one half of the student and teachers of the State total. Presently there are 42 colleges in Southern California. Past experience has shown that the committee accurately represents the totality of California junior colleges.

The California Teachers Association provides services to its chapters. These services generally include the assistance of a professional staff member. The CTA has provided staff assistance in the area of teaching loads to several junior colleges each year for the past 10 years. In order to provide assistance to the chapter it is necessary to collect data within the college to assist in the request. Although the data are unpublished and sometimes received in confidence,

they have proved to be of value. Much of this data and information has contributed to the development of the *TEACHING LOAD INDEX*.

Listed below are some of the projects accomplished for the committee in the development of the *INDEX*. The projects are not listed in the sequence in which they were undertaken, but rather in their order of appearance in the body of this publication.

(1) RELATIONSHIP OF PRE-PRESENTATION AND POST-PRESENTATION ACTIVITIES TO THE METHOD OF INSTRUCTION.

The Load Committee decided in 1960 to examine the activities directly related to the process of teaching in the classroom. The first portion of the project dealt with the activities which precede the active teaching process. The second part of the project was to list and analyse the activities which had to be accomplished after the classroom portion of the teaching process.

The pilot project involved each of seven members of the committee utilizing three additional faculty members, each from a different discipline. Part "A" of the project consisted of a list of preparation and post-presentation activities. Teachers indicated their use of the listed activities and in addition they were provided the opportunity to supplement the activity list if they desired. In Part "B" the teachers identified their method of instruction for each class and the preparation and post-presentation activities which were related to that class.

A stratified sample of colleges was used with a random sample of each faculty with the colleges. Data from two hundred one teachers were useable.

The type or method of instruction greatly influences the kind of preparation and the post-presentation activities of teachers. It was evident that teachers made at least five general classifications of courses, with the accompanying appropriate methods for instruction in each. Both the preparation and post-presentation activities reflected not a department or subject discipline, but rather the teaching methodology which the teachers utilize for that category of class or

course. Table I "Course Factors" reflects criteria which evolved from the analysis.

(2) ANALYSIS OF INSTITUTIONAL SERVICES WHICH ASSIST TEACHERS IN THEIR JOB PERFORMANCE.

In the Spring and Fall of 1961 the committee was interested in surveying and developing a position which would, if implemented, "lighten" the teachers' load by providing secretarial and clerical assistance to individual teachers. The collection of data had two aspects. The initial aspect was to identify services available to help the teacher accomplish the teaching process. The second aspect was to ascertain the amount of time for each service supplied to the teacher during a month's time span.

A possible list of services was compiled by each member of the Load Committee. The types and approximate amounts of time of various services available were secured by questioning department heads in the selected colleges. The pilot project provided a list of services. The amount of time available by departments was used as a check point for the total department.

Additional data was obtained from the business office determining how much service time it had assigned to departments and individuals.

Numerous services are made available to teachers in each college. The amount of available services varies greatly between departments within a specific college, and between colleges. When services are made available to teachers they are generally of a consistent nature and do not excessively fluctuate from week to week. Table IV-A reflect the types of Institutional Instructional Assistance.

(3) ANALYSIS OF ACTIVITIES AND RESPONSIBILITIES REQUIRED IN THE PERFORMANCE OF CONTRACT SERVICES.

In the Fall of 1958 the committee sought information dealing with this subject as the basis for a policy recommendation. One objective of the project was to

determine what "things" teachers were doing in connection with their contract teaching. The second part of the project attempted to answer the question: "What activities and responsibilities do teachers perform which are not directly attributed to the teaching of their classes?" A third portion was concerned with the legal question: "Can a teacher be required to perform 'these things' as part of their contractual obligation?"

The sub-committee of nine persons from different colleges maintained written records of their activities by fifteen-minute time blocks for one week as a pilot project. The project involved one hundred three teachers in eighteen different colleges recording their activities (in one hour time segments) each day during two consecutive weeks.

The results of this project, at the time it was conducted, were intended for a purpose other than measuring load. The analysis showed that teacher activities tended to fall into 3 groupings. The first group of activities and responsibilities was connected with the teachers' Classroom Instructional Program. A second group was clustered into Institutional Assisgnment or Institutional Responsibilities Activities. A third group of activities was found to be of an Individual Professional Improvement nature. Basically Table IV-B resulted from Institutional Responsibility and Table IV-C resulted from Professional Improvement.

(4) FACTORS WHICH HAVE MAJOR INFLUENCE ON TEACHING LOAD.

The basis for this project resulted from the project "Analysis of Dissatisfaction with Weekly Student Contact Hour and Student Unit Systems of Measuring Load." The analysis showed that teachers felt that neither method included important time-consuming factors which the teachers felt affected their teaching load.

The committee sought to collect teachers' opinions as to "what" had significant effect upon their teaching load. An equally significant objective was to measure the degree or amount of the contributing factors.

The committee suggested a lengthy list of "things," some of which resulted from the Contract Services Project, which contributed to the teachers' load. In Part

"A" teachers indicated whether they felt that the "thing" was extremely important, important, or less important, in affecting their load. Part "B" was the teachers' rankings of the "extremely" important designations in Part "A." Part "C" was a free-response section asking the reason for an "extremely important" designation of each of those so checked in Part "A."

The teacher sample was drawn from a stratified sample of Southern California colleges.

Eleven "extremely important" factors or elements were overwhelmingly agreed upon by the vast majority of teachers. The reasons for classifying as "extremely important" involved the use of time in some way. A great number of factors were listed in addition to the eleven. These less important factors were mentioned by less than 15% of the teachers. Interestingly, the minor factors did not mention "time" as the reason for being important.

NOTE: Office hours was one of the original eleven factors. It was dropped, as a factor, after the completion and analysis of the project on "Office Hours Activities." Results of the project showed clearly that office hours activities are basically the same as non-office hour activities. The "office hour" designation merely indicated that the activities were accomplished in a specified physical location at a particular time.

(5) ANALYSIS OF RELATIONSHIP OF INITIAL AND DUPLICATE PREPARATION ACTIVITIES.

In 1960, immediately following the project on Pre-and Post-Presentation Activities, the Load Committee sought to gather information dealing with the relationship of initial and duplicate preparations. The project had two major objectives. Part "A" was designed to test Jung's studies dealing with the Douglass formula. Essentially the time relation of the first, second, and third duplicate preparations was sought in relation to the initial preparation. Part "B" was designed to supplement the Pre- and Post-Presentation Activities project data with specific time data.

The pilot project used sub-committee personnel complemented by colleagues from

their campus for a one-week period. The project procedure differed in that data were collected for ten different initial preparations, regardless of the time span encompassed. In addition to noting the time for each preparation, the specific activity was recorded.

The sample was restricted to the teacher's experience and times of teaching the specific course. All teachers of less than three years junior college teaching experience were excluded. All data on courses taught by the teacher less than three years was discarded. Seventeen different classifications of departments were used.

The results confirmed the premise that duplicate preparations consume time. Duplicate preparations consume less time than the original or initial preparation. Each additional duplicate preparation uses approximately the same time as the first duplicate preparation. Results are used in Table III.

(6) OPTIMUM CLASS SIZES BY COURSE DESCRIPTION

The 1959-60 attempts at defining optimum class sizes resulted in a compromise general policy statement. In 1962 the topic was temporarily shelved. The objective of the 1963 project was to discover if there was sufficient agreement, among those teaching or having taught, as to the optimum class size for a course.

The committee initially established fourteen different class size ranges. The pilot project indicated that by use of an "unlimited" category and modifications that nine different class size ranges were satisfactory.

The procedure dropped course numbers and retained a short title or description of the course. Only persons who had taught or were presently teaching a course were asked to select the class size range for that course. The second phase of the project sought size range concurrence of a department upon all of the courses of the department. The third portion involved having a department chairman from a different college indicate his or her opinion (high, satisfactory, low) of each size range designation. The fourth part compared, where applicable, known staffing formulas for size ranges for other higher education institutions.

The results of the project confirmed the pilot projects finding of nine basic size class categories. Every course regardless of department or discipline fits into one of the class size ranges. Although there was some difference of opinion, there was overwhelming concurrence for a specific class size range for a specific course. The greatest deviations in opinions were in the unlimited category. Department chairmens' opinions closely coincided with department members' opinions of specific class size ranges for specific classes. Correlation with 4 year colleges from two states was significantly high to accept the sample's judgement. The more than four hundred specific courses utilized in the correlation are not reproduced in this document. The categories of class size ranges are found in Table II.

(7) TIME ANALYSIS OF ACTIVITIES OTHER THAN CLASSROOM INSTRUCTION

The 1962 project was limited to comparisons of various time-consuming activities. The basic objective of the project was to establish a relationship between clock hours and teaching or attendance hours. A secondary objective was to attempt to use the six ten-minute segments of a clock hour as the fundamental unit of measurement.

The sample of teachers for the project was selected to include, as nearly as possible, teachers from the academic, trade and industrial, and business segments of each college. The time reporting form was constructed with six ten-minute boxes per hour. The form had a six day week with a time range from 7 a.m. to 11 p.m. The respondents placed a code letter designation of activities in each appropriate time box. The code letter related to the type of activity engaged in during the time segment, (see Tables IV-A and IV-B). The time sample was drawn from the first, third and fifth weeks of the study period.

Eighty-seven cases were deemed complete in each of the sample weeks. A larger number of additional teachers completed two weeks and were used to confirm the three week group.

The results of the Individual Professional Improvement had a large range. It was felt that further study was needed to establish a reasonable and reliable range

for Professional Improvement. Institutional Responsibility activities were analysed. Further investigation indicated that college grouped data markedly decreased the range and variability of the teachers' time used in these activities. Some colleges obviously place more emphasis in this area than do other colleges. The conversion constant of .86 was derived from the relationship of activities attributed to the grouping of activities.

(8) ANALYSIS OF REALISTIC AND REASONABLE TEACHING LOAD LIMITS AS MEASURED BY NEW DEVICES.

Projects were completed in 1960 and 1963 attempting to analyze individual teacher's loads. The policies which evolved from the projects were general because of the nature of the measuring devices. Both measuring devices proved to be unsatisfactory. Jury concurrance could not classify specific teacher loads as to average, heavy or light.

A project was devised in 1964 to evaluate a number of fictitious individual teacher's loads by other teachers. The first objective was to develop a realistic measuring device for measuring load, utilizing the data from prior projects. A second objective was to determine the amount of agreement by teachers' evaluations of load situations. The third objective was to identify "why" specific loads were categorized as being heavy, light, or average. The fourth objective was to test the instrument's measurement of load for concurrence. The final objective was to show that loads could be decreased or increased by means other than varying numbers of students, classes, preparations, and methods of instruction.

A series of teacher schedules was constructed. Each of the individual schedules had a number of variations. Teachers of the same discipline were asked to rate the schedule on a five degree scale. The teachers then indicated their reason for the classification by check list. By varying the number of preparations, courses and students (all remained constant except one variable) the teachers rated the change of "weight." The variations were determined in advance by use of the "theoretical ideal" measurement. Cases of reasonable Instructional Loads were modified by increments of Institutional Assistance, Institutional Assignments, and combinations to judge the change of the load "weight."

Three slightly different measuring instruments were developed using the factors that had been derived from previous projects. Models of reasonable and realistic teacher schedules and loads fell within accepted limits in two of the three instruments. In general, the evaluation results agree accurately with the instrument, which is now known as the *Teaching Load Index*. The Instructional and Institutional Responsibility Loads were quantified. The Institutional Assistance Load was best used to modify the Instructional Load; hence by coupling the two loads the most realistic measurement was obtained.

During the next two years we will continue field testing and evaluating the *Teacher Load Index* in California community colleges. As we conduct additional tests, we invite the field of education to test, question, and comment upon the project presented herein. The results of our testing and the response from the field will lead to an increasingly accurate measurement of teacher loads.

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